

WHAT IS CLAIMED IS:

- 1           1. A method, comprising:  
2           designating a first portion of a virtual memory space as an unreserved portion  
3           which is conditionally accessible by a class of memory users which includes at least one  
4           memory user wherein said unreserved portion is mapped to physical memory space;  
5           designating a second portion of said virtual memory space as a reserved portion  
6           which is conditionally unavailable for use by any memory user of said class of memory  
7           users; and  
8           converting a subportion of one of said unreserved portion and said reserved  
9           portion to a subportion of the other of said unreserved portion and said reserved portion.
- 1           2. The method of claim 1 further comprising allocating a buffer subportion of the  
2           unreserved portion of said virtual memory space for use as a buffer memory by a  
3           memory user of said class of memory users.
- 1           3. The method of claim 2 wherein said allocating includes changing a bit of a  
2           bitmap representing said unreserved portion to indicate that said buffer subportion is  
3           allocated to a memory user.
- 1           4. The method of claim 3 further comprising subsequently unallocating said  
2           buffer subportion so that said buffer subportion is available to be allocated to a user of  
3           said class of memory users.
- 1           5. The method of claim 4 wherein said unallocating includes changing a bit of a  
2           bitmap representing said unreserved portion to indicate that said buffer subportion is  
3           available to be allocated to a user of said class of memory users.

1           6. The method of claim 1 wherein said converting includes converting a  
2 subportion of said unreserved portion to a subportion of said reserved portion.

1           7. The method of claim 1 wherein said converting includes converting a  
2 subportion of said reserved portion to a subportion of said unreserved portion.

1           8. The method of claim 1 wherein said reserved and unreserved portions are  
2 contiguous in said virtual memory space and the boundary between said reserved and  
3 unreserved portions is represented by a virtual memory address and wherein said  
4 converting includes changing the virtual memory address of the boundary.

1           9. The method of claim 1 wherein said class of memory users are users of a send  
2 and receive agent.

1           10. The method of claim 1 wherein said physical memory is a part of a host  
2 memory.

1           11. The method of claim 1 wherein said reserved portion is not mapped to  
2 physical memory space.

1           12. An article comprising a storage medium, the storage medium comprising  
2 machine readable instructions stored thereon to:

3                   designate a first portion of a virtual memory space as an unreserved  
4 portion which is conditionally accessible by a class of memory users which includes at  
5 least one memory user wherein said unreserved portion is mapped to physical memory  
6 space;

7                   designate a second portion of said virtual memory space as a reserved  
8 portion which is conditionally unavailable for use by any memory user of said class of  
9 memory users; and

10                   convert a subportion of one of said unreserved portion and said reserved  
11   portion to a subportion of the other of said unreserved portion and said reserved portion.

1           13. The article of claim 12 wherein the storage medium further comprises  
2   machine readable instructions stored thereon to allocate a buffer subportion of the  
3   unreserved portion of said virtual memory space for use as a buffer memory by a  
4   memory user of said class of memory users.

1           14. The article of claim 13 wherein the machine readable instructions to allocate  
2   include machine readable instructions stored on the storage medium to change a bit of a  
3   bitmap representing said unreserved portion to indicate that said buffer subportion is  
4   allocated to a memory user.

1           15. The article of claim 14 wherein the storage medium further comprises  
2   machine readable instructions stored thereon to subsequently unallocate said buffer  
3   subportion so that said buffer subportion is available to be allocated to a user of said class  
4   of memory users.

1           16. The article of claim 15 wherein the machine readable instructions to  
2   unallocate include machine readable instructions stored on the storage medium to change  
3   a bit of a bitmap representing said unreserved portion to indicate that said buffer  
4   subportion is available to be allocated to a user of said class of memory users.

1           17. The article of claim 12 wherein the machine readable instructions to convert  
2   include machine readable instructions stored on the storage medium to convert a  
3   subportion of said unreserved portion to a subportion of said reserved portion.

1           18. The article of claim 12 wherein the machine readable instructions to convert  
2 include machine readable instructions stored on the storage medium to convert a  
3 subportion of said reserved portion to a subportion of said unreserved portion.

1           19. The article of claim 12 wherein said reserved and unreserved portions are  
2 contiguous in said virtual memory space and the boundary between said reserved and  
3 unreserved portions is represented by a virtual memory address and wherein the machine  
4 readable instructions to convert include machine readable instructions stored on the  
5 storage medium to change the virtual memory address of the boundary.

1           20. The article of claim 12 wherein said class of memory users are users of a send  
2 and receive agent.

1           21. The article of claim 12 wherein said physical memory is a part of a host  
2 memory.

1           22. The article of claim 12 wherein said reserved portion is not mapped to  
2 physical memory space.

1           23. A system, comprising:  
2                 a virtual memory space comprising a plurality of memory addresses;  
3                 a physical memory which includes data storage, said physical memory  
4 having a physical memory space comprising a plurality of physical memory addresses;  
5                 a processor coupled to the physical memory;  
6                 a network controller which includes a class of physical memory users  
7 which includes at least one physical memory user;  
8                 a data storage controller for managing Input/Output (I/O) access to the  
9 data storage; and

10                   a device driver executable by the processor in the memory, wherein at  
11   least one of the device driver and the network controller is adapted to:  
12                   (i) designate a first portion of a virtual memory space as an  
13       unreserved portion which is conditionally accessible by said class of memory  
14       users wherein said unreserved portion is mapped to said physical memory space;  
15                   (ii) designate a second portion of said virtual memory space as a  
16       reserved portion which is conditionally unavailable for use by any memory user  
17       of said class of memory users; and  
18                   (iii) convert a subportion of one of said unreserved portion and  
19   said reserved portion to a subportion of the other of said unreserved portion and said  
20   reserved portion.

1           24. The system of claim 23 wherein at least one of the device driver and the  
2   network controller is further adapted to allocate a buffer subportion of the unreserved  
3   portion of said virtual memory space for use as a buffer memory by a memory user of  
4   said class of memory users.

1           25. The system of claim 24 further comprising a bitmap having a plurality of bits  
2   representing said unreserved portion and wherein said allocating includes changing a bit  
3   of said bitmap representing said unreserved portion to indicate that said buffer subportion  
4   is allocated to a memory user.

1           26. The system of claim 25 wherein at least one of the device driver and the  
2   network controller is further adapted to subsequently unallocate said buffer subportion so  
3   that said buffer subportion is available to be allocated to a user of said class of memory  
4   users.

1           27. The system of claim 26 wherein said unallocating includes changing a bit of a  
2   bitmap representing said unreserved portion to indicate that said buffer subportion is  
3   available to be allocated to a user of said class of memory users.

1           28. The system of claim 23 wherein said converting includes converting a  
2 subportion of said unreserved portion to a subportion of said reserved portion.

1           29. The system of claim 23 wherein said converting includes converting a  
2 subportion of said reserved portion to a subportion of said unreserved portion.

1           30. The system of claim 23 wherein said reserved and unreserved portions are  
2 contiguous in said virtual memory space and the boundary between said reserved and  
3 unreserved portions is represented by a virtual memory address and wherein said  
4 converting includes changing the virtual memory address of the boundary.

1           31. The system of claim 23 wherein at least one of the device driver and the  
2 network controller includes a send and receive agent which includes said class of  
3 memory users.

1           32. The system of claim 23 further comprising a host memory and said physical  
2 memory is a part of a host memory.

1           33. The system of claim 23 wherein said reserved portion is not mapped to said  
2 physical memory space.

1           34. The system of claim 23 for use with an unshielded twisted pair cable, said  
2 system further comprising an Ethernet data transceiver coupled to said network controller  
3 and said cable and adapted to transmit and receive data over said cable.

1           35. The system of claim 23 further comprising a video controller coupled to said  
2 processor.

1           36. A network adapter for use with a system which includes a virtual memory  
2 space comprising a plurality of memory addresses, a physical memory which includes  
3 data storage, said physical memory having a physical memory space comprising a  
4 plurality of physical memory addresses; the adapter comprising:  
5                   a class of physical memory users which includes at least one physical  
6 memory user;  
7                   wherein the network adapter is adapted to:  
8                         (i) designate a first portion of said virtual memory space as an  
9 unreserved portion which is conditionally accessible by said class of memory  
10 users wherein said unreserved portion is mapped to said physical memory space;  
11                         (ii) designate a second portion of said virtual memory space as a  
12 reserved portion which is conditionally unavailable for use by any memory user  
13 of said class of memory users; and  
14                         (iii) convert a subportion of one of said unreserved portion and  
15 said reserved portion to a subportion of the other of said unreserved portion and said  
16 reserved portion.

1           37. The adapter of claim 36 wherein the network adapter is further adapted to  
2 allocate a buffer subportion of the unreserved portion of said virtual memory space for  
3 use as a buffer memory by a memory user of said class of memory users.

1           38. The adapter of claim 37 further comprising a bitmap having a plurality of bits  
2 representing said unreserved portion and wherein said allocating includes changing a bit  
3 of said bitmap representing said unreserved portion to indicate that said buffer subportion  
4 is allocated to a memory user.

1           39. The adapter of claim 38 wherein the network adapter is further adapted to  
2 subsequently unallocate said buffer subportion so that said buffer subportion is available  
3 to be allocated to a user of said class of memory users.

1           40. The adapter of claim 36 wherein said reserved and unreserved portions are  
2 contiguous in said virtual memory space and the boundary between said reserved and  
3 unreserved portions is represented by a virtual memory address and wherein said  
4 converting includes changing the virtual memory address of the boundary.

1           41. The adapter of claim 36 wherein said reserved portion is not mapped to said  
2 physical memory space.